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Goulven VERNOIS - Reply to Action 02/16/06

## - III - AMENDED CLAIMS UNDER 37 CFR 1.121

## Reply to Claims Rejections - 35 USC § 112

**14. Claim 15 is rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.**

The Applicant regards as the invention the transformation of a concave circular membrane whose thickness, or thickness, is very large, in a multi waves plane surface whose thickness, the vertical crest to crest distance, is so little as one wants.

10 The thin object so made can be wound onto itself in a cylinder, as a paper disk, and easily transported.

There is not particular structural relation between the folded membranous mirror and the folded actuating membrane.

These two membranes can be folded together, the membranes being in contact, or folded individually.

15 In the new claims, to avoid confusion, the membranes are folded individually.

The Applicant is very astonished by the difficulties encountered in the comprehension of the folding of concave membranes according to the invention.

This folding method is a very new method, but the Applicant thought that the specification and the drawings were sufficient.

20 To explain better, if possible, the Applicant adds a new drawing, that is an example and not new matter.

Endeed, the Applicant thinks that the best cut showing the limit of the waves is an narrow line, as large can be the mirror.

25

## Claim rejection - 35 USC § 102

## What are two independent things ?

The expression " independent membranes " is ambiguous.

30 Hutchinson thoroughly describes the peripheral connection between the metal membrane 22 and the reflective flexible membrane 26 via ring 16 and various accessories of sealing.

This peripheral material solidarisation of the two membranes is essential to ensure the sealing between wall 18 and membrane 26 so as to be able to create a depression ensuring the putting of the reflective membrane 26 against the metal membrane 22, thus constituting the parabolic mirror object of the invention.

35 Under these final conditions, achieving the goal of the invention, the two membranes are perfectly and firmly tied, without possibility of independent movements.

It cannot be said that the membranes are independent, and, in addition, Hutchinson does not describe nor does not assert the independence of the two membranes.

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Now, if one considers with the Examiner the manufactures completely independent of the metal membrane 22 and the flexible membrane 26, it can be said that membranes 22 and 26 are independent.

Then, the Applicant does respectfully to observe that, in this meaning, in most cases, the handle and the blade of a knife would be independent devices.

So, what is the better : " Please, lend me your blade and your handle ", or " Please, lend me your knife " ?

To avoid, by lack of time, a certainly very interesting semantic and philosophic discussion about the word " independent ", the Applicant asks respectfully for reinstate the initial claim 1f, slightly amended.

In the mind of the Applicant, " independent " was the better to sum up that the membranous mirror and the actuating membrane were without contact between them, or with an other device.

With this claim 1f slightly amended and the substitute specification, all the objections of the Office Action Summary disappear, absolutly without new matter.

#### What is an actuating device ?

In the astronomical terminologiy, a device " actuating " a telescope mirror is a device which alters continuously the shape of a telescope mirror to give to it a perfect shape, under control of a chape controller.

Hutchinson, colum 3, lines 50 – 55 describes the constant putting of the reflective membrane 26 against the metallic membrane 22.

**The metallic membrane 22 is not an actuating device, but an inert device.**

The application being in the astronomic field, the Applicant respectfully point out it is basic to use the particular terminology of this matter.

**The Applicant confesses humbly does not remember why he has amended on 11/04/99 the claim 1f and inserted the ambiguous word " independent ".in amended claim 1.**

#### Claims rejection - 35 USC § 103

30 The elements " memory shape ", " ring " and " independent " being out of the claims, there is no more subject for 35 USC § 103.

For the " ring ", the Applicant respectfully point out that the " ring " of the application was an temporary device for handling the membranes, when the ring of Hutchinson is an permanent element of the frame of the mirror.

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## - III - Amended Claims under 37 CFR 1.121 (c)

1 (twice amended) - Telescope optical device comprising a mirror and a device actuating the mirror

characterized in that the mirror and the actuating device are free concave membranes  
5 without contact between them, or with an other device, and tied by their central parts to the telescope

45 (new) - Telescope optical device according to claim 1,

characterized in that there are two levels of control to give at the free membranous mirror  
a perfect shape :

10 In a first level, an approximate shape is given to the free actuating membrane by interaction of a magnetic fields tied to the telescope with magnetic fields generated by actuating membrane;

in a second level, a perfect form is given to the free membranous mirror by electrostatic interaction of the free actuating membrane with the free membranous mirror.

15 46 (new) - Telescope optical device according to claim 1,

characterized in that by use of the capacitive coupling between the conductive layer of the mirror and specific electrodes of the actuating membrane, the spread electronic integrated in the actuating membrane acts for the self-stabilisation of the shape of the system mirror-actuating membrane.

20 47 (new) - Telescope optical device according to claim 1,

characterized :

in that, for its folding, the concave membranous mirror is deformed by the formation of concentric circular ondulations obtained by a succession of centered distortions alternately concave and convex, altering the pure concave surface of the membranous mirror in a 25 circular surface comprising a series of circular centered waves whose the vertical crest to crest distance is so small as one wishes, in view of the number of waves so great as one wishes.

and in that the thin almost flat object so obtained is wound onto itself, forming a cylinder.

48 (new) - Telescope optical device according to claim 1,

30 characterized :

in that, for its folding, the concave membranous actuating membrane is deformed by the formation of concentric circular ondulations obtained by a succession of centered distortions alternately concave and convex, altering the pure concave surface of the actuating membrane in a circular surface comprising a series of circular centered waves 35 whose the vertical crest to crest distance is so small as one wishes, in view of the number of waves so great as one wishes.

and in that the thin almost flat object so obtained is wound onto itself, forming a cylinder.

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